DOCUMENT RESUME

ED 121 522 RC 009 119

AUTHOR	Cosby, Arthur G.; Picou, J. Steven
TITLE	Model of the Transmission of Educational Status: Sex-Race Differentials.
INSTITUTION	Texas A and M Univ., College Station. Texas Agricultural Experiment Station.
SPONS AGENCY	Cooperative State Research Service (DOA), Washington, D.C.
REPORT NO	TAES-H-2811; USDA(CSRS)-S-81
PUB DATE	75
NOTE	16p.; Paper presented at Rural Sociology Section of the SAAS Meeting (New Orleans, Louisiana, 1975); Tables may not reproduce clearly due to small type
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage
DESCRIPTORS	Academic Aspiration; Caucasians; Comparative Analysis; Cultural Background; Educational Mobility; *Educational Status Comparison; *Family Background; Models; Negroes; Parent Influence; *Racial Differences; *Rural Youth; *Sex Differences; Socioeconomic Status; Southern States
IDENTIFIERS	*Transmission of Educational Status

ABSTRACT

Extending application of Svalastoga's (1965) concept of system permeability to the intrasystem analysis of sex-race differentials in educational permeability in the rural South, an operational procedure was developed to quantify permeability as the percent variation in filial attainment of a status not associated with variation in parental status. Reviewing parental-filial correlations for educational status reported from: (1) The Occupational Change in a Generation Survey; (2) The Project Talent Panel; (3) The follow-up to the Explorations in Equality of Opportunity; (4) The Wisconsin Panel; and (5) The Southern Youth Study (S-81); data were analyzed and produced some tentative conclusions. Among these were: (1) comparison of black and white rates of permeability revealed that blacks' intergenerational competition for educational status was of a more egalitarian nature than similar white processes; (2) white males' educational permeability was greater than that for females; (3) based on Southern Youth data (354 white and 234 black males; 231 white and 207 black females), blacks were less likely to have aspirations for education corresponding to those of their parents' statuses and were less likely to translate their educational aspirations to actual attainment; (4) social origins influence achievement attitudes and attitudes influence attainment. (JC)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS). EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made from the original.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED121522

MODEL OF THE TRANSMISSION OF EDUCATIONAL STATUS: SEX-RACE DIFFERENTIALS[1]

by

Arthur G. Cosby and J. Steven Picou

Texas A&M University

RECEIVED
MAR 17 1975
NMSU
E.R.I.C.

Transmission of status refers to the intergenerational transferral and correspondence between parental and filial statuses. To what extent and in what manner do parents transfer to their children advantages of power, wealth, and education? This manuscript is concerned with a restricted aspect of the general problem - the analysis of sex-race differentials in the transmission of only educational status in a cohort of non-metropolitan deep South youth. Data from the Southern Youth Study (USDA, CSRS, S-81) is utilized to construct a reduced status attainment model of early educational achievement. The goal is to alternately apply the model to four sex-race categories as a mechanism to compare differences in the processes of status transmission and levels of achievement.

Systems Permeability and Parental-Filial Correlations

Svalastoga (1965) developed the notion of social system permeability as a central concept for characterizing stratification structure. Although he introduced the concept within a social change context, it can be applied to a wide range of stratification and mobility issues. Permeability, in one sense, refers to the degree of flexibility (or rigidity) of entrance to or exit from important statuses in a social system. The degree of permeability is of special theoretical significance since it can be directly related to a familiar taxonomy of stratification system. Quoting Svalastoga:

> ... It will be sufficient for our purposes to concentrate on the factor of birth. Of any social system we shall ask: How do the social rewards handed out to a person in terms of social status depend upon birth, that is, upon the social status of his father? If such dependence is strong, permeability is near zero; if it is weak, permeability is close to its maximum. Thus this concept allows us to list a hierarchy of stratification models in terms of increasing permeability as follows:

RC009119

[1]Manuscript prepared for presentation at the Rural Sociology Section of the SAAS Meetings, New Orleans, Louisiana, 1975. Development of this paper was sponsored by the Texas Agricultural Experiment Station as a contribution to TAES project H-2811 and CSRS Regional Project S-81, "Development of Human Resource Potentials of Rural Youth in the South and Their Patterns of Mobility." The cooperating Agricultural Experiment Stations of Alabama, Georgia, Louisiana, Mississippi and South Carolina are recognized along with their participating researchers in making the Regional data available. Appreciation is also expressed to William W. Falk, William G. Howard and William P. Kuvlesky for their comments on the paper and to Nancy Huckaby for her assistance in the preparation of the manuscript. All errors, of course, are the responsibility of the authors.

1. Caste Model: Permeability Zero
2. Estate Model: Permeability very low, but not absent
3. Class Model: Permeability about 40% of maximum
4. Continuous Model: Permeability about 80% of maximum
5. Egalitarian Model: Permeability perfect (maximum)

(Svalastoga, 1965:39-40)

To the empirical researcher, permeability is appealing since it gives broader meaning to an accessible and relatively common bit of social data. That is, the correlation between parental and filial status can be viewed as a system indicator of permeability. In operational terms, we are referring to parental-filial correlations involving such measures as socio-economic status, occupational status, educational status, income, and prestige. A correlation of one would mean a perfect correspondence between or transferral of statuses from one generation to the next - indicating zero permeability and a caste model. As the correlation decreases there would be increasingly more permeability indicating successively an estate model, a class model and a continuous model. Finally, a zero correlation would indicate no systematic relationship between parental and filial statuses characterizing a completely permeable or egalitarian model. Thus, permeability and the parental-filial correlation can be roughly associated in a negative fashion -- as permeability increases the parental-filial correlation decreases. A more direct operationalization of the concept can be developed by introducing additional refinements. Since we are interested in the amount of shared variation between parental and filial status, the coefficient of determination (r^2) should yield a more interpretable measure. Also by substracting from one, we obtain the amount of variation in filial status not associated with origins, that is, the amount of permeability. Thus we suggest the following measure:

$$\text{Percent Permeability} = (1 - r^2) \times 100$$

Further expanding Svalastoga's framework, permeability is a potentially far-reaching construct that can be used to organize and relate a substantial range of stratification phenomena. It not only allows an estimate of the degree of systemic dependence of status allocations on social origins, it also provides information for ordering social systems and parts thereof along a contiuum of stratification types. The application of the concept to extant and possible social research suggests at least three broad categories:

I. Intersystem Analysis of Permeability

The comparative analysis of rates of permeability refers to two or more social systems. An example of this type of analysis would be the comparison of rates of dependency of occupational and educational achievement on origins in the United States, Great Britain and France.

II. Intrasystems Analysis of Permeability

Here we can further delineate two sub-categories:

A. The comparative analysis of rates of permeability among two or more groups or aggregates within a social system,

e.g., the analysis of differential rates of permeability between blacks and whites or males and females.

B. The analysis of factors that explain the degree of status transferral, e.g., social psychological models of status attainment processes.

III. Temporal Analysis of Permeability

Temporal analysis refers to either the intersystemic or intrasystemic analysis of change in rates of permeability; e.g., studies of the historic rates of permeability of nations as systems or of groups or aggregations within them.

Estimates of Educational Permeability

To return again to the limited problem of this manuscript, we are focusing on the intrasystem permeability of educational status and our object of analysis is a cohort of deep south youth. Our primary interests are first, the sex-race variations in transferral of only one status dimension (educational status); and second, the comparison of sex-race differences in the process of transferral as indicated by a reduced status attainment model. Educational achievement was selected as the primary status referent for two reasons. First, the S-81 data were obtained relatively early in the panel's socio-economic life cycle - average age was approximately 22 years. It was assumed that alternate indicators such as occupational status levels had not yet stabilized to the degree of educational achievement and thus the transferral of educational status would yield a more valid indicator of permeability. Second, in comparing males and females, estimates based on occupational status are extremely troublesome. For example, in measuring women's occupational status how do you rate housewife as an occupation? Should you use husband's occupational status as an indicator of wife's status? If husband's status is used how do you relate occupational status of married to unmarried women? By using educational status, we have, at least, a status indicator that can be directly related across sex aggregates.

Table I contains a collection of correlation coefficients between indicators of parental social status and level of filial status gleaned from published reports of four major social mobility studies conducted in the United States. The four studies are the Occupational Change in a Generation Survey (OCG); The Project Talent Panel; The follow-up to the Explorations in Equality of Opportunity (EEO) and The Wisconsin or Sewell Panel. The OCG data provides estimates for the 1962 adult male labor force; whereas the Talent, EEO and Wisconsin data give estimates for three cohorts who were high school students during the 1950's. Based on our review, the four studies represent "our best" estimates of current educational permeability.

When the coefficients are taken collectively, they tend to depict a picture of a continuous stratification model, at least for white male's educational status. When we take those correlations for white males based on measures of father's education level (excluding composite SES, father's occupational and mother's educational status) the estimates range between .418 (OCG) and .254 (Wisconsin). These correlations indicate that the degree of shared variation (X^2) between father and son's educational status varied between 18% and 6%.

Table 1: Estimates of the Permeability of Educational Status in the United States by Race and Sex.

Source	Description of Data Set	Status Measure: Parental	Filial		White[a] M	White[a] F	Black M	Black F
Duncan, Featherman and Duncan (1972). Also see: Duncan (1968) and Carter and Picou (1975).	OCG Data, 1962 Adjunct to Current Population Survey U.S. Bureau of Census: 20,700 males in the non-farm labor force age 20-64.	Fath Occ	Ed Att		.432	---	.242	---
		Fath Ed	Ed Att		.418	---	.363	---
Porter (1974)	Project Talent Data, National Panel of U.S. High Schools randomly selected; Cohort was High School seniors in 1960 with a Wave II follow-up five yrs. later; Analysis of 14,891 white and 435 black students.	Heads Occ	Ed Att		.303	---	.113	---
Alexander and Eckland (1973); Also see Alexander and Eckland (1975)	EEO Data; National example of High Schools. Cohort was High School Sophomores in 1955 with a Wave II follow-up in 1970. Analysis of 2,077 males and females.	Fath Occ	Ed Att		.257	-b-	---	---
		Fath Ed	Ed Att		.373	-b-	---	---
		Moth Occ	Ed Att		.386	-b-	---	---
Sewell and Shah (1968)	Survey of Wisconsin High School Students. Cohort was High School seniors in 1957; predominately white; Wave II follow-up seven to eight years later; Analysis of 9007 males and females.	Fath Ed	Ed Att		.254	.293	---	---
		Moth Ed	Ed Att		.244	.295	---	---
Sewell, Haller and Ohlendorf (1970); Also see Sewell, Haller and Portes (1969) and Sewell and Hauser (1972).	Further analysis of the Wisconsin Data for Males	SES	Ed Att	(Farm)	.260	---	---	---
				(Village)	.341	---	---	---
				(Sm City)	.458	---	---	---
				(Md City)	.382	---	---	---
				(Lg City)	.381	---	---	---
				(Total)	.417	---	---	---
Carter (1972)	Further analysis of the Wisconsin Data for males and females.	Fath Occ	Ed Att	(Non-Married)	.324	.259	---	---
		Fath Ed	Ed Att		.304	.325	---	---
		Moth Ed	Ed Att		.261	.333	---	---
		Fath Occ	Ed Att	(Married)	-c-	.253	---	---
		Fath Ed	Ed Att		-c-	.389	---	---
		Moth Ed	Ed Att		-c-	.375	---	---

[a]Both the EEO and Wisconsin Surveys are predominately white samples. The numbers of non-whites are estimated to be so slight that the correlations represent essentially white data.

[b]Zero Order Correlations for women were not reported in the two EEO reports.

[c]The Table of Zero-Order correlations for married men was not included.

Table 1 also reveals that the weight of our information on educational permeability involves white male data with comparatively less information for black males or for females of either racial grouping. It should be noted that in none of these four studies were estimates reported for all four sex-race categories. In fact no estimates were found in any of the studies for black females. There are, however, discernible patterns by race and sex that can be inferred. First, the OCG data and the Talent data both indicate that permeability for white males is less than that for black males indicating a greater dependence of white males in their educational achievement on social origins. The major discrepancy here is the magnitude of the difference; the Talent data indicates larger differences in rates than OCG data. Second, the Wisconsin

data suggests that permeability for white females is less tha. chat for white males, although the difference is not substantial. Alexander and Eckland (1974) made a similar observation for EEO data although their correlations were not reported.

Race-Sex Variations in Educational Achievement

Studies of race variations in educational achievement have been relatively few and limited to males (e.g., See: Duncan, 1968; Siegel, 1965; Duncan, Featherman and Duncan, 1972; Porter, 1974; Carter and Picou, 1975). One of the most consistent findings reported by these studies relates to relative inability of blacks to transfer familial social status advantages to their progeny. Duncan (1968:95-96) has interpreted this phenomenon in the following manner:

> The Negro family, in other words, is relatively less able than the white to pass on to the next generation any advantage that may accrue to substantial status achievement in the present generation. In one sense, stratification in the Negro population is less severe than in the white;

Specifically regarding race variations in educational achievement, Carter and Picou (1975:35) have noted:

> ...that the gross black-white difference in educational achievement is 2.81 years. Of this total difference, about 37 percent, ... is due to the lower social origins of most blacks. The resulting ... 63 percent of the gross difference, is due to differential treatment of blacks and whites by the stratification system. Thus, the larger part of the black-white gap in educational achievement is due to processual differences (emphasis added).

As noted above, recent models of the status attainment process have revealed the important role played by educational and occupational aspirations for subsequent achievements in these status areas (Haller and Portes, 1973). The manner in which high-status aspirations are formed and converted into achievements appears to be a very significant point of departure for further specification of black-white processual variations in educational achievement. Previous research on race variations in aspiration-development indicates that occupational aspirations of black youth are less constrained by social origins than those of whites (Cosby and Picou, 1973). This finding is not at all dissimilar from the results of those studies noted above relating social origins to achievement. Taken together, they suggest that the nature of the American stratification system differs by race, in that motivations and achievements are more intimately related to considerations of social origins for whites. That is, educational and occupational aspirations and achievements form moreso along class lines for white Americans.

The link between aspirations and achievements takes on added significance in light of these theoretical notions. Although black Americans may very well be less handicapped in their quest for status attainment by social origins than whites, the liabilities of institutional racism (Ornstein and Rossi,

1970) reveals a social system that consistently "at each stage of the life cycle, gives blacks a smaller reward than it gives whites for equivalent investments or attainments" (Carter and Picou, 1975:37). As such, it appears logical to infer that the conversion of aspirations to achievements net of social origins, should be more problematic for blacks.[2]

Turning to a consideration of the literature on sex variations in educational achievement reveals an even greater dearth of research. To the authors' knowledge no studies are available on black females, while only studies by Sewell and Shah (1967;1968) and Alexander and Eckland (1974) exist on white females. In general, these studies have found significant variations in the educational achievement process of male and female white youth. Sewell and Shah's (1967) research points to the possibility of different sex-role socialization processes. These authors found that males, moreso than females, tended to have: (1) educational expectations that included college; (2) actually enrolled in college; and (3) subsequently graduated from college, even after controls for social origins and ability were applied. Alexander and Eckland's (1974:680) elaboration of a school-process model revealed that sex had an "immediated depressant effect" on educational achievement and that educational achievements of white females were more dependent on considerations of social origins than those of white males. In terms of the theoretical notion of permeability of the American stratification system outlined earlier, one could argue that female achievements tend to be more class based than male achievements. The fact that Sewell and Shah (1967;1968) and Alexander and Eckland (1974) found that female educational achievements, in contrast to males', were less related to academic ability, and more related to social origins, points to the possibility that a more rigid stratification system may be operative for females.

In sum, the rather limited research on race-sex variations in educational achievement indicates that both race and sex are important ascribed statuses which have significant consequences for educational achievements and the process by which such achievements are obtained. However, several obvious gaps exist in both the theoretical and empirical literature. First, no research exists which has attempted a simultaneous comparison of multivariate models of educational achievement for male and female black and white youth. This fact severely restricts specific conclusions regarding race-sex differentials in educational achievement. Second, the data base of previous inquiries precludes any generalizations about the process of educational achievement for a group of young adults commonly thought to be relatively disadvantaged in our society -- non-metropolitan southern youth. Third, previous studies are rather

---

[2]It is well documented in the research literature that whites receive a greater payoff, in terms of occupational achievements, from educational attainment (Siegel, 1965; Duncan, 1968; Carter and Picou, 1975). Furthermore, an examination of the zero-order correlations between occupational aspirations and educational achievement is possible for one study of black and white males (Porter, 1974:307, Table 1). The R for blacks = .253; the R for whites = .337. These results tend to support the argument that at each life-cycle stage, blacks lack the conversion ability of whites.

limited in terms of the historical period in which their cohorts were envolved in the transition from high school to college. The possibility that the salience of race and sex effects for the process of educational achievement has been reduced during the last decade cannot be overlooked (Alexander and Eckland, 1974:680). The objectives of this study have been formulated in terms of these limitations.

The Data

The data analyzed in this report were obtained from the Southern Youth Study (USDA S-81). The data set consists of a three-wave panel (1966-68-72) of non-metropolitan southern youth who were originally high school sophomores in 1966-67 in Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas. Group-administered questionnaires were given to tenth-grade students present the day of the interview in a set of purposively selected schools. Wave II data were obtained by interviewing the same students during their senior year in high school. A third wave contact was conducted in 1972 when most of the panel were four years beyond the expected date of high school graduation. Data were collected in this last wave by means of personal interviews supplemented with mailed questionnaires and telephone interviews. The principal reason for panel attrition was estimated to have resulted from out migration. As a result of missing data problems (Wave II data was not collected in Mississippi), Mississippi respondents were deleted from the study. The resulting data set included 354 white males; 234 black males, 231 white females and 207 black females.

Measures of Parental Educational Status were determined by asking the students to answer the question, "What was the highest school grade completed by your father and mother?" Responses were coded in a five level scale: (1) less than high school; (2) high school graduate; (3) vocational, technical; (4) some college; and (5) college graduate. Filial Educational Status (1972) was obtained in a similar manner with two additions. Students who were in college four years after high school were given a college graduate code of (5), and a code of (6) was added for professional and graduate education.

Two additional attitudinal variables were also measured: Level of Occupational Aspirations (LOA) and Level of Educational Aspiration (LEA). LOA was determined by a simple average of Duncan (1961) SEI scores to questions designed to give occupational aspirations and expectations, i.e., "the job you would most desire" and "the job you really expect to have most of your life." LEA was determined in similar fashion by averaging the six level educational status scores to educational aspirations and expectations questions.

Permeability Estimates from the Southern Youth Study

When the Southern Youth data was categorized by sex and race (See Table 2), considerable variation was found in the parental-filial correlations. As had been the case in both the OCG and Talent data cited earlier, black males were found to have lower rate of intergenerational transferral of educational status than white males. Parental-filial correlations for black males were .218 for father education and .129 for mother education as compared to similar estimates of .269 and .300 for whites. The new bit of data relatively

TABLE 2. Zero-Order Correlations, Means, and Standard Deviations for Each Race-Sex Category.

White Males (N = 354)

	Fath Ed	Moth Ed	LEA	LOA	Ed Att	$\bar{X}$	S.D.
Fath Ed	---	.560	.364	.224	.269	1.941	1.306
Moth Ed		---	.384	.256	.300	2.044	1.246
LEA			---	.650	.571	4.205	1.291
LOA				---	.500	54.847	23.288
Ed Att					---	3.257	1.438

Black Males (N = 237)

	Fath Ed	Moth Ed	LEA	LOA	Ed Att	$\bar{X}$	S.D.
Fath Ed	---	.416	.149	.169	.218	1.429	0.839
Moth Ed		---	.242	.079	.129	1.804	1.150
LEA			---	.506	.401	4.004	1.267
LOA				---	.404	45.683	23.382
Ed Att					---	2.717	1.172

White Females (N = 231)

	Fath Ed	Moth Ed	LEA	LOA	Ed Att	$\bar{X}$	S.D.
Fath Ed	---	.548	.433	.248	.441	2.125	1.414
Moth Ed		---	.407	.290	.369	1.996	1.133
LEA			---	.461	.646	3.955	1.244
LOA				---	.381	56.160	17.381
Ed Att					---	3.117	1.364

Black Females (N = 207)

	Fath Ed	Moth Ed	LEA	LOA	Ed Att	$\bar{X}$	S.D.
Fath	---	.484	.084	.089	.145	1.149	0.932
Moth Ed		---	.153	.115	.184	1.578	1.167
LEA			---	.370	.410	4.174	1.238
LOA				---	.350	52.546	17.089
Ed Att					---	2.894	1.265

to race was that the same patterns also holds for black females and that the racial differences were substantially greater between black and white women - correlations for black women were .145 and .184 in contrast to correlations of .441 and .369 for white women.

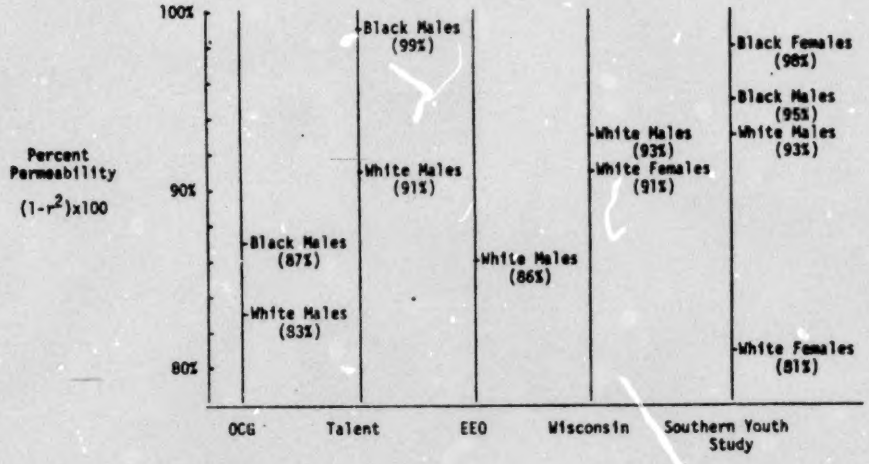
This finding is in agreement with the earlier interpretations of Duncan (1968) and Carter and Picou (1975) that white families are more "successful" than blacks in transmitting advantages of social class to their children as reflected in filial achievement. Of course, the "advantage" for whites is a relative matter dependent upon one's position in the stratification hierarchy since it also means that lower status whites are also more likely to transfer that lower status to their children. Thus, for blacks who have a lower transfer rate, the effects of parental social status is less likely to be a "handicap" or of an "advantage" for achievement as compared to the equivalent influences among whites. In permeability terms, the competition between blacks for social status resembles a more egalitarian stratification system. This refers only to within race competition for statuses, we, of course, are not maintaining that Southern black men and women have faced an egalitarian stratification system in their competition with whites.

Differences by sex in the rates of transfer were also observed. White females were found to have the largest rates of transferral of the four sex race categories (father's education - .441 and mother's education - .369). In fact, the correlation of .441 between father's and daughter's educational

status is larger than any of the estimates obtained from OCG, EEO, Talent or Wisconsin data (See Table 1). The comparable coefficients for white males were .269 and .300 indicating somewhat lower dependency on social origins. The coefficients between blacks males and females were of about the same magnitude and mixed suggesting little real differences.

In Illustration 1, we have converted the correlations reported in the OCG, EEO, Talent, Wisconsin and Southern Youth studies into measures of percent permeability [$(1 - r^2) \times 100$]. Wherever possible father's educational status was used as the common indicator of parental status. As can be seen in the illustration, percent permeability was found to exceed 80% in all cases and thus conform to the model of continuous stratification system. Three estimates for black populations either equaled or exceeded 95% permeability and approached a completely permeable or egalitarian model - only in the case of OCG data with an estimate of 87% was black permeability clearly within the continuous range. In making comparisons between these five data sets, caution should be exercised because numerous confounding factors could as plausably account for observed differences. Differences due to history, sampling, panel mortality, measurement error and operationalization can impact on the estimates.

Illustration 1. Estimates of Educational Permeability by Sex and Race Reported in Five Surveys

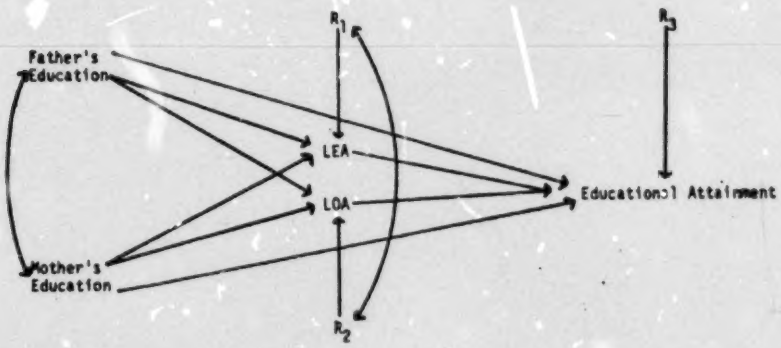


Status Attainment Processes

From the perspective of system permeability, the emerging area of status attainment research is seen as an approach that can explain at the individual level of analysis how parental status is transmitted to filial status. It is, a theoretical and methodological approach to the analysis of intrasystem permeability, as well as, other types of intrasystem analyses. To further elaborate, status attainment is an alternate approach to social mobility research where models of attainment based upon the notion of the socio-economic life cycle are constructed and usually evaluated by path analytic procedures, (Blau and Duncan, 1967; Duncan, Featherman and Duncan, 1968; and Elder, 1968).

One evolving strategy has been to treat status attainment within an intervening influence model where relatively fixed background variables such as parental status and intelligence exert influences on status attainment that are mediated by a set of social psychological variables. The most extensive modeling effort within this general framework has been that by Sewell and his colleagues (Sewell, Haller, and Portes, 1969; Sewell, Haller, and Ohlendorf, 1970; Sewell and Hauser, 1972 and Haller and Portes, 1973). This model, includes in a single path diagram the influences of parental socio-economic status, intelligence, academic performance, significant other influences, occupational aspirations, educational aspirations, and educational attainment upon the primary status variable, occupational attainment. Subsequent studies of racial differences (Porter, 1974) and sex differences Alexander and Eckland (1975) can be seen as an expansion of the original Sewell strategy.

Illustration 2. Reduced Form Status Attainment Model



Following the general approach of the Wisconsin model, a reduced form status attainment model was applied to Southern Youth Study data by sex and race. Our model has level of father's and mother's education as exogenous indicators of social origins. Level of educational aspirations (LEA) and level of occupational aspirations (LOA) were introduced as intervening influences between the indicators of origins and the final variable in the model level of educational achievement. In path diagram form the model appears as Illustration 2.

Path coefficients for each of the four applications of the reduced status attainment model are presented in Table 3. Both standardized and unstandardized (in parentheses) path coefficients are provided for each effect estimate specified by the model. The .05 level of statistical significance (t-test of paths that $p = 0$) was selected as our criterion of effect. In addition, multiple correlations and coefficients of determination were reported to assist in the evaluation of the models. Residual correlations were omitted because of space limitations but can be provided on request.

TABLE 3. Path Coefficients for Each Race-Sex Category.

	Path Ed	Moth Ed	LEA	LOA	Residual Path	R	R^2
White Males (N = 354)							
LEA	.217	.263	---	---	.906	.424	.180
	(.214)	(.272)					
LOA	.117	.190			.962	.274	.075
	(2.084)	(3.558)					
Ed Att	.072*	.039*	.384	.224	.798	.602	.363
	(.083)	(.043)	(.427)	(.014)			
Black Males (N = 237)							
	Path Ed	Moth Ed	LEA	LOA	Residual Path	R	R^2
LEA	.06	.218	---	---	.969	.249	.062
	(.087)	(.241)					
LOA	.165	.010*			.985	.170	.029
	(4.592)	(.210)					
Ed Att	.143	-.012*	.256	.251	.875	.484	.234
	(.200)	(-.012)	(.237)	(.013)			
White Females (N = 231)							
	Path Ed	Moth Ed	LEA	LOA	Residual Path	R	R^2
LEA	.300	.243	---	---	.878	.479	.229
	(.264)	(.267)					
LOA	.127*	.220			.951	.308	.095
	(1.565)	(3.380)					
Ed Att	.176	.037*	.514	.089*	.736	.677	.458
	(.170)	(.045)	(.536)	(.007)			
Black Females (N = 207)							
	Path Ed	Moth Ed	LEA	LOA	Residual Path	R	R^2
LEA	.013*	.147*	---	---	.988	.155	.024
	(.017)	(.156)					
LOA	.004*	.093*			.992	.122	.015
	(.801)	(1.369)					
Ed Att	.059*	.083*	.311	.220	.879	.477	.228
	(.008)	(.090)	(.318)	(.016)			

* Coefficient found to be non-significant at the .05 level.

Variations in Explanatory Power

Using the coefficient of determination (R - square) as our criterion, the reduced form model explains substantial amounts of variation in educational attainment in all four of the sex-race groups; all four coefficients were statistically significant, ranging in magnitude from .458 to .228. There was, however, considerable variation by both race and sex. The model clearly had higher explanatory power for white populations and in particular for white women. In contrast, the model was only about one half to two thirds as efficient in explaining variation in black attainment. Coefficients were .458 for white females and .363 for white males in comparison to coefficients of .228 for black females and .234 for black males. In terms of sex, mixed results were obtained for the model. There appeared to be little difference in the degree of explaination between male and female blacks. The white female results, however, indicated that their educational attainment was somewhat better predicted by the model than were those of white males.

The Influence of Origins on Adolescents' Attitudes

When we examine the path coefficients from social origins to adolescents' attitudes (the paths from father's and mother's educational status to high

school senior's levels of educational and occupational aspirations), we find that white families were more likely than black families to transmit to their children achievement attitudes that reflect their own statuses.

(1) White males: all paths from parental status to LEA and LOA were found to be significant indicating that the status level of each parent independent of the other influenced the development of adolescent attitudes.

(2) White females: paths from both father's education (.300) and mother's education (.243) to LEA were significant, indicating independent effects of parental status on educational attitudes. Mother's status, but not father's, was found to influence adolescent LOA. Generally the transferral of origins to attitudes seemed to be slightly more effective for white females (as compared to white males).

(3) Black males: mother's status was found to have a much larger effect (.218) on development of LEA than father's status (.058). On the other hand, father's status was found to influence development of LOA (.165), whereas mother's status had no effect (.010). Although there was a measurable transferral from origins to adolescent attitudes for black males, the degree of transferral was considerably less than that for white males and females.

(4) Black females: none of the path coefficients from origins to attitudes were of sufficient magnitude to indicate effects. It can be inferred from this that black females develop their attitudes (LEA and LOA) independently of their origins. Since all coefficients were not significant, the rate of transferral of origin to attitudes was less for black women than for the three preceding groups.

The Influence of Attitudes on Attainment

For each sex-race category, the reduced model provides estimates of the influence of LEA or LOA on subsequent attainment, controlling for the effects of social origins and the attitude not being considered. Both LEA and LOA were generally found to have substantial effects (paths greater than .20) on educational attainment. Several patterns emerged. First, LEA consistently had larger effects on educational attainment than LOA, i.e., the achievement attitude (level of educational aspirations) that corresponded to the behavior referent (educational attainment) consistently had greater influence than the related attitude (level of occupational aspiration). Second, the effects of LEA on attainment for whites was apparently larger than the comparable effects for blacks i.e., path from LEA to attainment were .384 for white males, .256 for black males, and .514 for white females and .311 for black females. The same pattern of racial differences was also maintained in the unstandardized path coefficients. Third, the effect of LOA on educational attainment for black and white men was about equal (standardized paths of .224 and .251), whereas the effect of LOA for black women greatly exceeded the similar effect for white women (.220 and .089).

Summary

In this manuscript, we have extended the application of Svalastoga's (1965) concept of system permeability to the intrasystem analysis of sex-race differentials in educational permeability. We have also suggested an operational procedure that quantifies permeability as the percent variation in filial attainment of a status that is not associated with variations in parental status. Thus, permeability of a system is the degree of intergenerational non-trarsferral of status.

Our review of parental-filial correlations for educational status reported from OCG, Talent, EEO, Wisonsin and Southern Youth data has led us to several tentative conclusions. First, educational stratification in the contemporary United States can be characterized as being of a continuous model with the percent permeability exceeding 80% of the maximum in all cases. Second, comparisons of rates of permeability for blacks with those for whites led us to believe that blacks' intergenerational competition for educational status is of a more egalitarian nature than similar white processes. Third, it appeared, although the data were less conclusive, that white males' educational permeability was greater than that for females. Thus, we found that the dependency of educational achievement on social origins varied by race and sex and that origins seem to have the greatest influence on white females' attainment, less on white male attainment and least on both black male and female attainment.

Using Southern Youth data, reduced form status attainment model was applied to each sex-race category to further investigate the variations in permeability. With regard to racial differences, two general trends were of particular interest. Blacks were less likely to have aspirations for education that correspond to their parents' statuses, and blacks were less likely to translate their educational aspirations to actual attainment. Therefore, in a process where social origins influence achievement attitudes, and attitudes then influence attainment, blacks are less "successful" at each step in the process. It should be noted here that although the lack of influence of origins on attitudes or on attainment is suggestive of an egalitarian situation, the inability to translate aspirations into subsequent attainment is suggestive of racial inequalities in experiences, training and opportunity conducive to attainment.

REFERENCES

Alexander, Karl L. and Eckland, Bruce K.
1973 "Effects of education on the social mobility of high school sophomores fifteen years later (1955-1970)." Chapel Hill: Institute for Research in Social Science.

Alexander, Karl L. and Eckland, Bruce K.
1974 "Sex differences in the educational attainment process." Vol. 5:668-682.

Carter, T. Michael and Nancy D. Carter
1972 "Status attainment vs. social mobility: alternative or complementary modes of stratification research?" LSU Journal of Sociology II (October):12-33.

Carter, Nancy D.
1973 "The effects of sex and marital status on a social-psychological model of occupational status attainment." Unpublished Masters thesis, University of Wisconsin: Madison.

Carter, T. Michael and J. Steven Picou
1975 "Status attainment theory and black youth," in J. Steven Picou and Robert E. Campbell (eds.), Career Behavior of Special Groups. Columbus Ohio: Charles E. Merrill.

Cosby, Arthur G. and J. Steven Picou
1973 "Structural models and occupational aspirations: Black-White variations among deep-south adolescents," Journal of Vocational Behavior, (January).

Duncan, Otis D.
1966 "Methodological issues in the analysis of social mobility," in Neal J. Smelser and Seymour M. Lipset (eds), Social Structure and Mobility in Economic Development, Aldine (Chicago).

Duncan, Otis Dudley
1968 "Inheritance of poverty or the inheritance of race?" Danel P. Moynihan (ed.), On Understanding Poverty, New York: Basic Books.

Duncan, O.D., D.L. Featherman, and B. Duncan
1968 Socioeconomic Background and Occupational Achievement: Extensions of a Basic Model. Ann Arbor: University of Michigan, Population Studies Center.

Elder, Glen H., Jr.
1968 "Achievement motivation and intelligence in occupational mobility: a longitudinal analysis," Sociometry 31 (December):327-354.

Haller, Archibald O. and Alejandro Protes
1973 "Status attainment processes," Sociology of Education 46 (Winter): 51-91.

Ornstein, Michael D. and Peter H. Rossi
1970 "Going to work: An analysis of the determinants and consquences of entry into the labor force." Report No. 75, The Center for the Study of Organization of Schools. Baltimore, Maryland: The John Hopkins University.

Porter, James N.
1974 "Race, socialization and mobility in educational and early occupational attainment." American Sociological Review, Vol.3:303-316.

Sewell, William H. and Vimal Shah
1968 "Parents education and childrens educational aspirations and achievement." American Sociological Review, Vol. 33:191-209, (April).

Sewell, W.H., A.O. Haller, and A. Portes
1969 "The educational and early occupational status attainment process," American Sociological Review 34:82-92.

Sewell, W.H., A.O. Haller, and G.W. Ohlendorf
1970 "The educational and early occupational status attainment process: replication and revision," American Sociological Review 35:1014-1027.

Sewell, William H.
1971 "Inequality of opportunity for higher education," American Sociological Review (October):793-806.

Sewell, W.H. and Robert M. Hauser
1972 "Causes and consequences of higher education: models of the status attainment process," American Journal of Agricultural Economics 54 (December):851-861.

Siegel, Paul M.
1965 "On the cost of being a Negro," Sociological Inquiry 35:41-57.

Svalastoga, Kaare
1965 Social Differentiation. New York: David McKay Company, Inc.